

### ABSTRACT

Described herein are novel ammonia-oxidizing bacteria as well as isolated nucleotide sequences representative of 16S rDNA of these ammonia-oxidizing bacteria. Particular bacteria of the present invention are tolerant of freshwater environments, saltwater environments or both.

- 5 Furthermore, in various embodiments, various bacteria of the present invention are capable of surviving a freeze-drying process, and may remain viable thereafter. Methods for preventing or alleviating the accumulation of ammonia in aqueous environments, such as aquaria and wastewater are also provided, using the ammonia-oxidizing bacteria of the present invention.